Trend Study 1-7-01

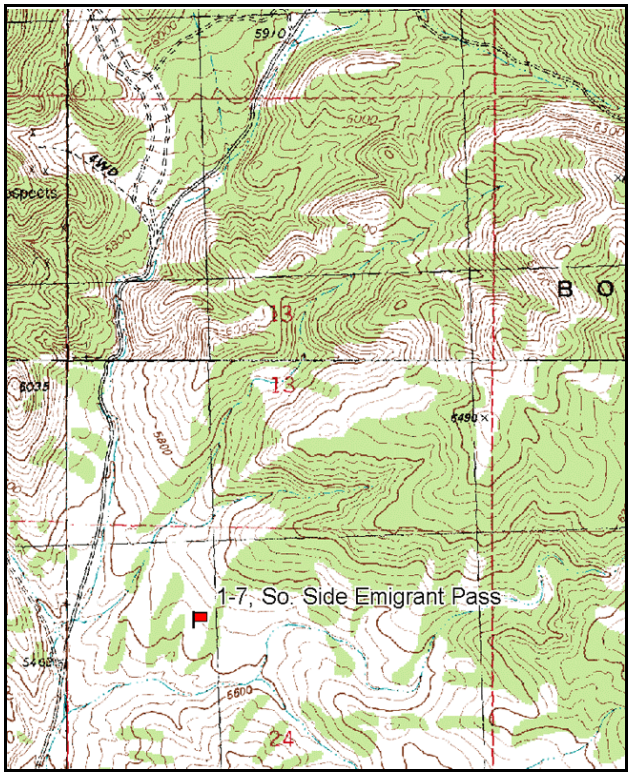
Study site name: South Side Emigrant Pass . Vegetation type: Black Sagebrush .

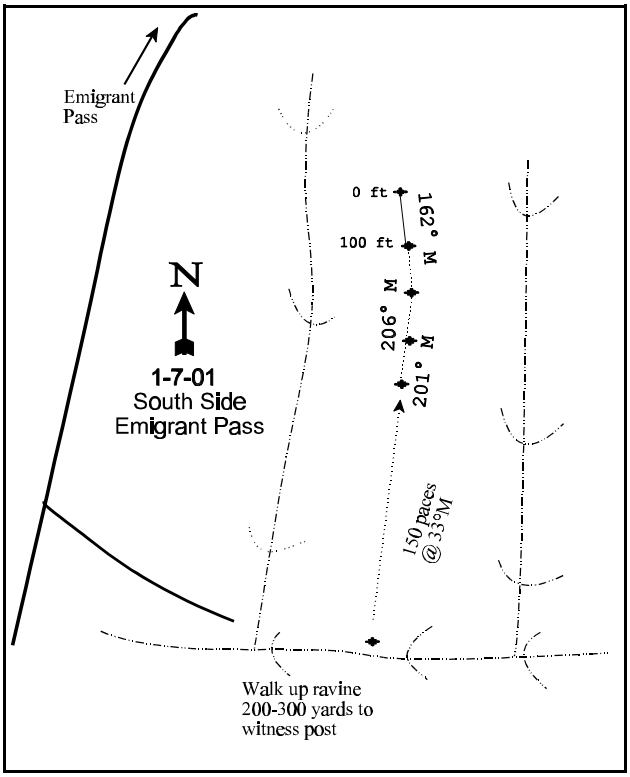
Compass bearing: frequency baseline 162 degrees magnetic.

Frequency belt placement: line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

LOCATION DESCRIPTION

From the cattleguard at the summit of Emigrant Pass Road, travel 2.6 miles southwest to a cheatgrass flat on the east side of the road. Turn left crossing the flat and drive east to the wash. Walk up the wash approximately 200-300 yards to a witness post. Take a bearing of 33 degrees magnetic and walk 150 paces up the ridge to the 400-foot stake of the baseline. The 0-foot stake is marked with a red browse tag, #7911. The baseline runs at a bearing of 162 degrees magnetic. The 300-foot baseline runs 206 degrees magnetic. The 400-foot baseline runs 201 degrees magnetic.





Map Name: Bovine

Diagrammatic Sketch

Township 9N , Range 17W , Section 24

UTM 4596664 N, 270911 E

DISCUSSION

Trend Study No. 1-7

The South Side Emigrant Pass trend study samples a black sagebrush ridge within critical deer winter range on Emigrant Pass. The area has a 10% slope to the southwest. Shallow draws containing a few junipers are located to either side of the study area. Elevation is approximately 5,610 feet. The area is also used as winter sheep range as part of the White Lakes allotment. This allotment is grazed from December 1 to March 31. A pellet-group transect read in conjunction with the vegetation transect in 2001 estimated 5 deer days use/acre (13 deer days use/ha) and 71 elk days use/acre (175 elk days use/ha).

Soil is very rocky on the surface and appears almost "armored" with extensive areas of erosion pavement. The soil is relatively shallow with an estimated effective root depth of only about 10 inches. The soil is a sandy-clay with a slightly alkaline soil reaction (7.7 pH). The amount of phosphorus in the soil could be a limiting factor at only 3.9 ppm. Litter cover is scarce and vegetative cover is limited almost exclusively to black sagebrush crowns. Pedestalling of sagebrush plants is common but not extreme. The erosion condition classification determined the site to be in stable condition in 2001.

Black sagebrush is the obvious key browse species. Although a variety of other shrubs can be found, they are either in low numbers, are poor forage producers, or are so poor in palatability that they are unsatisfactory for management purposes. The black sagebrush population is stable or even expanding which, although heavily hedged, the population appears to turn-over rather rapidly. Seedlings and young plants were numerous and percent decadency was low (9%) in 1996. However, in 2001 this has turned around with the extended drought coupled with a moderately high density (intraspecific competition) as seedlings and young decreased substantially and percent decadence doubled (18%). Mature shrubs average less than one foot in height and tend to be evenly spaced. Annual average growth for black sagebrush is slightly below the norm for this management area. Most reproduction occurs under or very near existing sagebrush crowns. In spite of heavy use, black sagebrush exhibits good vigor. Other associated shrub species include: narrowleaf low rabbitbrush, shadscale, bud sagebrush, and green molley summer cypress.

Herbaceous plants make up only 14% of the total vegetation cover and constitute a small portion of the vegetative composition. The most abundant species are two low-growing forbs, Cryptantha spp. and longleaf phlox. Neither have much value as forage plants. Grasses occur infrequently and produce on average about 2% cover. The most common species are Indian ricegrass, bottlebrush squirreltail, and a significantly increasing amount of annual cheatgrass.

1984 APPARENT TREND ASSESSMENT

Soil appears stable. Ongoing erosion is enough to result in some pedestalling of black sagebrush plants. However, erosion is slowed by the gentle terrain and the prevalence of erosion pavement. Vegetative trend appears stable but at a relatively low condition rating. Plant diversity is low and shows few signs of improvement or further degradation. The dominant black sagebrush stand, although low-growing, is heavily hedged and not highly productive, yet appears self-sustaining.

1990 TREND ASSESSMENT

Trend for browse appears stable even after extended years of drought. The shrubs showed mostly light hedging. Canopy cover from black sagebrush averages about 13%. The low rabbitbrush has not increased, although the population remains dominated by young plants. There is a high frequency of forbs, but none of the native species are especially valuable as forage. Herbaceous vegetation is somewhat restricted by the

extensive pavement cover on the ground surface. Some soil loss through sheet erosion is evident. Most grasses are increasing slowly, but Indian ricegrass is increasing much faster. It has gone from a quadrat frequency of 14% up to 31% and represents the most common grass on the site.

TREND ASSESSMENT
soil - stable but in poor condition (3)
browse - stable (3)
herbaceous understory - improving slightly, but in poor condition (4)

1996 TREND ASSESSMENT

Trend for soil is stable but poor condition. Percent bare ground increased slightly from 7% to 9%, while pavement and rock cover declined from 67% to 45%. Some sheet erosion is still occurring but due to the gentle terrain, it is not severe. Trend for the key browse species, black sagebrush, is up slightly. Utilization is moderate to heavy with 29% of the population displaying heavy use. Vigor is good and percent decadency has declined from 30% to 9%. The proportion of young plants declined from 41% to 25% and biotic potential (number of seedlings) dropped from 26% to 3%, but there are still sufficient numbers to maintain the population. Trend for the herbaceous understory is slightly up with an increase in the sum of nested frequency for grasses and forbs. Indian ricegrass declined significantly, while the nested frequency for Sandberg bluegrass and squirreltail increased. The dominant forbs, cryptantha and longleaf phlox, both increased significantly in their nested frequency values. However, the herbaceous understory is still depleted and in poor condition.

TREND ASSESSMENT
soil - stable but poor condition (3)
browse - up slightly (4)
herbaceous understory - up slightly (4)

2001 TREND ASSESSMENT

Trend for soil continues to be stable, but still in poor condition. Percent bare ground increased slightly, although vegetation cover increased slightly. Pavement and rock cover is still around 50% with some sheet erosion still occurring. Due to the gentle terrain, erosion it is not severe and the erosion condition class was determined to be stable. In addition, the ratio of bare soil to protective ground cover remains almost unchanged. Trend for the key browse species, black sagebrush, is stable with a slight increase in density offset with slight increases in percent decadence and an increase in proportion of dead plants within the population. Utilization is mostly light to moderate with good vigor. The proportion of young plants continues to decline for the third time in a row (1990, 1996, and 2001). Biotic potential (proportion of seedlings in the population) also dropped for the third consecutive sampling period. There still appears to be sufficient numbers of young and seedlings to maintain the population. Trend for the herbaceous understory is stable with slight increases for perennial grasses and slight decreases for perennial forbs. Indian ricegrass has been declining since 1990, while cheatgrass has been steadily increasing. Cheatgrass is not abundant however, producing less than 1% cover. The dominant forbs include cryptantha, Cymopterus, and longleaf phlox. The herbaceous understory is still depleted and in poor condition.

TREND ASSESSMENT
soil - stable but poor condition (3)
browse - stable (3)
herbaceous understory - stable, but depleted (3)

HERBACEOUS TRENDS --
Herd unit 01 , Study no: 7

Type	Species	Nested Frequency				Quadrat Frequency				Average Cover %	
		'84	'90	'96	'01	'84	'90	'96	'01	'96	'01
G	Agropyron spicatum	$_{a}$-	$_{a}$2	$_{a}$-	$_{b}$35	-	1	-	19	.00	.32
G	Bromus tectorum (a)	-	-	$_{a}$51	$_{b}$99	-	-	21	36	.13	.60
G	Oryzopsis hymenoides	$_{a}$26	$_{b}$70	$_{b}$54	$_{a}$20	14	31	27	9	.84	.37
G	Poa secunda	$_{a}$3	$_{a}$6	$_{a}$19	$_{b}$43	2	3	9	17	.23	.74
G	Sitanion hystrix	$_{ab}$15	$_{a}$9	$_{bc}$31	$_{c}$45	9	5	15	23	.26	.49
Total for Annual Grasses		0	0	51	99	0	0	21	36	0.12	0.60
Total for Perennial Grasses		44	87	104	143	25	40	51	68	1.34	1.93
Total for Grasses		44	87	155	242	25	40	72	104	1.47	2.53
F	Allium spp.	5	-	3	-	3	-	1	-	.00	-
F	Astragalus newberryi	$_{a}$-	$_{a}$-	$_{b}$23	$_{a}$-	-	-	10	-	.18	-
F	Astragalus spp.	-	-	-	6	-	-	-	4	-	.02
F	Astragalus utahensis	$_{ab}$18	$_{b}$23	$_{a}$9	$_{a}$4	9	12	3	3	.01	.04
F	Balsamorhiza hookeri	-	-	1	-	-	-	1	-	.00	-
F	Castilleja chromosa	5	-	-	-	2	-	-	-	.00	-
F	Caulanthus crassicaulis	$_{a}$-	$_{a}$-	$_{b}$14	$_{a}$-	-	-	6	-	.06	-
F	Crepis acuminata	3	-	-	-	3	-	-	-	-	-
F	Cryptantha spp.	$_{c}$116	$_{b}$58	$_{c}$92	$_{a}$18	57	28	42	7	.47	.13
F	Cymopterus spp.	$_{a}$-	$_{a}$-	$_{a}$8	$_{b}$30	-	-	3	16	.01	.13
F	Descurainia pinnata (a)	-	-	-	1	-	-	-	1	-	.00
F	Erigeron argentatus	-	2	1	-	-	1	1	-	.00	-
F	Erigeron spp.	-	-	3	-	-	-	1	-	.03	-
F	Eriogonum ovalifolium	-	-	3	6	-	-	1	4	.00	.02
F	Erigeron pumilus	$_{a}$-	$_{a}$-	$_{a}$3	$_{b}$39	-	-	1	18	.00	.29
F	Gilia spp. (a)	-	-	38	34	-	-	16	15	.08	.10
F	Haplopappus acaulis	$_{a}$4	$_{b}$32	$_{a}$18	$_{a}$6	2	17	7	2	.08	.03
F	Malcolmia africana	-	-	5	-	-	-	3	-	.01	-
F	Pedicularis centranthera	-	-	-	4	-	-	-	1	-	.03
F	Phlox hoodii	57	43	34	28	29	24	16	15	.37	.22
F	Phlox longifolia	$_{a}$90	$_{ab}$124	$_{b}$133	$_{ab}$126	47	56	63	55	.56	.32
F	Ranunculus testiculatus (a)	-	-	$_{a}$2	$_{b}$16	-	-	1	6	.00	.03
F	Sphaeralcea coccinea	1	2	-	-	1	1	-	-	-	-

Type	Species	Nested Frequency				Quadrat Frequency				Average Cover %	
		'84	'90	'96	'01	'84	'90	'96	'01	'96	'01
Total for Annual Forbs		0	0	40	51	0	0	17	22	0.08	0.13
Total for Perennial Forbs		299	284	350	267	153	139	159	125	1.84	1.25
Total for Forbs		299	284	390	318	153	139	176	147	1.93	1.39

Values with different subscript letters are significantly different at alpha = 0.10 (annuals excluded)

BROWSE TRENDS --
Herd unit 01 , Study no: 7

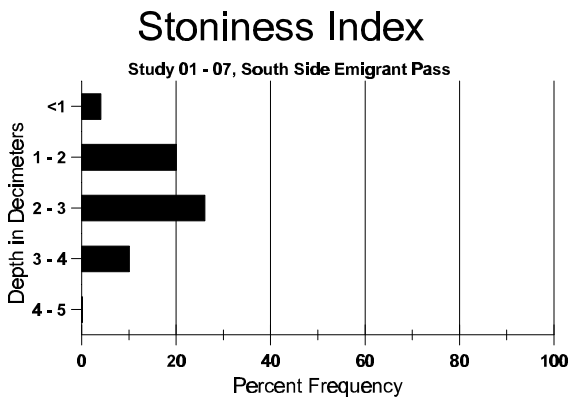
Type	Species	Strip Frequency		Average Cover %	
		'96	'01	'96	'01
B	Artemisia nova	99	99	17.45	19.28
B	Atriplex confertifolia	33	24	1.37	.95
B	Chrysothamnus viscidiflorus stenophyllus	75	68	2.51	2.30
B	Ephedra nevadensis	0	22	-	.10
B	Juniperus osteosperma	0	1	-	-
B	Kochia americana	23	0	.06	-
B	Tetradymia nuttallii	14	14	.30	1.83
Total for Browse		244	228	21.71	24.48

BASIC COVER --
Herd unit 01 , Study no: 7

Cover Type	Nested Frequency		Average Cover %			
	'96	'01	'84	'90	'96	'01
Vegetation	290	289	3.25	9.75	25.04	30.18
Rock	263	222	5.75	11.00	11.69	5.50
Pavement	366	354	62.75	56.00	33.71	46.00
Litter	351	330	23.50	14.75	12.81	13.06
Cryptogams	235	122	1.50	1.50	2.55	2.16
Bare Ground	276	248	3.25	7.00	8.89	11.87

SOIL ANALYSIS DATA --
Herd Unit 01, Study no: 07, South Side Emigrant Pass

Effective rooting depth (in)	Temp °F (depth)	PH	%sand	%silt	%clay	%0M	PPM P	PPM K	dS/m
10.2	62.8 (9.7)	7.7	55.9	9.1	35.0	1.44	3.9	172.8	.6



PELLET GROUP FREQUENCY --
Herd unit 01 , Study no: 7

Type	Quadrat Frequency	
	'96	'01
Rabbit	16	5
Elk	-	48
Deer	17	-

Pellet Transect	
Pellet Groups per Acre	Days Use per Acre (ha)
01	01
26	N/A
922	71 (175)
61	5 (12)

BROWSE CHARACTERISTICS --
Herd unit 01 , Study no: 7

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Artemisia nova																		
S	84	28	-	-	-	-	-	-	-	-	28	-	-	-	1866			28
	90	38	-	-	-	-	-	-	-	-	38	-	-	-	2533			38
	96	17	-	-	-	-	-	-	-	-	17	-	-	-	340			17
	01	3	-	-	-	-	-	-	-	-	3	-	-	-	60			3
Y	84	40	23	6	-	-	-	-	-	-	68	-	1	-	4600			69
	90	54	1	-	4	-	-	-	-	-	59	-	-	-	3933			59
	96	79	63	1	-	1	-	-	-	-	144	-	-	-	2880			144
	01	27	1	-	-	-	-	-	-	-	28	-	-	-	560			28
M	84	9	46	10	-	-	-	-	-	-	62	-	3	-	4333	8	11	65
	90	35	6	-	2	-	-	-	-	-	42	-	1	-	2866	11	14	43
	96	20	176	143	-	34	3	5	-	-	381	-	-	-	7620	9	23	381
	01	196	230	52	1	-	-	-	-	-	474	5	-	-	9580	7	18	479
D	84	3	8	6	-	-	1	-	-	5	12	-	11	-	1533			23
	90	38	-	-	5	-	-	-	-	-	41	-	-	2	2866			43
	96	5	23	20	-	-	2	-	-	-	39	-	-	11	1000			50
	01	72	30	8	2	-	-	-	-	-	85	-	-	27	2240			112
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	240			12
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	620			31

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	49%	18%	10%	- 8%
'90	05%	00%	02%	+16%
'96	52%	29%	02%	+ 7%
'01	42%	10%	04%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'84	10466	Dec:	15%
	'90	9665		30%
	'96	11500		9%
	'01	12380		18%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Artemisia spinescens																		
Y	84	9	-	-	-	-	-	-	-	-	9	-	-	-	600			9
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	84	1	9	8	-	-	-	-	-	1	18	-	1	-	1266	6	8	19
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0	7	13	0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
D	84	-	-	1	-	-	-	-	-	-	1	-	-	-	66			1
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor
'84	31%	34%	03%
'90	00%	00%	00%
'96	00%	00%	00%
'01	00%	00%	00%

Total Plants/Acre (excluding Dead & Seedlings)			%Change
'84	1932	Dec:	3%
'90	0		0%
'96	0		0%
'01	0		0%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Atriplex confertifolia																		
S	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	5	-	-	-	-	-	-	-	-	5	-	-	-	333			5
	96	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
	01	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
Y	84	4	6	1	-	-	-	-	-	-	11	-	-	-	733			11
	90	-	-	-	-	-	-	1	-	-	1	-	-	-	66			1
	96	6	-	-	-	-	-	-	-	-	6	-	-	-	120			6
	01	10	-	-	1	-	-	-	-	-	11	-	-	-	220			11
M	84	1	8	3	1	-	-	-	-	-	13	-	-	-	866	7	10	13
	90	5	-	-	1	-	-	-	-	-	5	-	-	1	400	10	8	6
	96	9	7	-	8	10	4	-	-	-	38	-	-	-	760	9	15	38
	01	8	-	-	4	-	-	-	-	-	12	-	-	-	240	8	12	12
D	84	-	4	3	1	1	-	-	-	6	5	-	9	1	1000			15
	90	16	-	-	5	-	-	-	-	-	10	-	-	11	1400			21
	96	-	1	-	-	1	-	-	-	-	2	-	-	-	40			2
	01	5	-	-	12	-	-	2	-	-	11	-	-	8	380			19
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	100			5

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	49%	33%	26%	-28%
'90	00%	00%	43%	-51%
'96	41%	09%	00%	- 9%
'01	00%	00%	19%	

Total Plants/Acre (excluding Dead & Seedlings)				
'84	2599	Dec:		38%
'90	1866			75%
'96	920			4%
'01	840			45%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Chrysothamnus viscidiflorus stenophyllus																		
S	84	1	-	-	-	-	-	-	-	-	1	-	-	-	66			1
	90	3	-	-	-	-	-	-	-	-	3	-	-	-	200			3
	96	3	-	-	10	-	-	2	-	-	15	-	-	-	300			15
	01	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
Y	84	22	1	1	-	-	-	-	-	-	24	-	-	-	1600			24
	90	21	-	-	6	-	-	-	-	-	27	-	-	-	1800			27
	96	9	-	-	-	-	-	-	-	-	9	-	-	-	180			9
	01	5	-	-	-	-	-	-	-	-	5	-	-	-	100			5
M	84	2	5	9	-	-	-	-	-	1	17	-	-	-	1133	7	11	17
	90	5	-	-	3	-	-	-	-	-	8	-	-	-	533	11	13	8
	96	122	4	-	-	-	-	-	-	-	125	-	1	-	2520	8	15	126
	01	72	1	2	1	-	-	1	-	-	75	2	-	-	1540	5	10	77
D	84	1	-	-	-	-	-	-	-	1	1	-	1	-	133			2
	90	12	-	-	3	-	-	-	-	-	13	-	-	2	1000			15
	96	18	-	-	2	-	-	-	-	-	17	-	-	3	400			20
	01	41	2	-	4	-	-	-	-	-	34	-	-	13	940			47
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	100			5

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	14%	28%	02%	+14%
'90	00%	00%	04%	- 7%
'96	03%	00%	03%	-17%
'01	02%	02%	10%	

Total Plants/Acre (excluding Dead & Seedlings)				
'84	2866	Dec:		5%
'90	3333			30%
'96	3100			13%
'01	2580			36%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Ephedra nevadensis																		
S	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
Y	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	22	2	-	-	-	-	-	-	-	22	2	-	-	480			24
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0	16	19	0
	01	28	-	-	-	-	-	-	-	-	28	-	-	-	560	5	6	28
D	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	4	-	-	-	-	-	-	-	-	2	-	-	2	80			4

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor
'84	00%	00%	00%
'90	00%	00%	00%
'96	00%	00%	00%
'01	04%	00%	04%

Total Plants/Acre (excluding Dead & Seedlings)			%Change
	'84	0	Dec: 0%
	'90	0	0%
	'96	0	0%
	'01	1120	7%

Juniperus osteosperma																		
S	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
Y	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor
'84	00%	00%	00%
'90	00%	00%	00%
'96	00%	00%	00%
'01	00%	00%	00%

Total Plants/Acre (excluding Dead & Seedlings)			%Change
	'84	0	Dec: -
	'90	0	-
	'96	0	-
	'01	20	-

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Kochia americana																		
S	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	5	-	-	-	-	-	-	-	-	5	-	-	-	100			5
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
Y	84	14	1	1	-	-	-	-	-	-	15	-	1	-	1066			16
	90	6	-	-	-	-	-	-	-	-	6	-	-	-	400			6
	96	19	-	-	-	-	-	-	-	-	19	-	-	-	380			19
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	84	6	1	2	-	-	-	-	-	-	9	-	-	-	600	2	2	9
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	28	-	-	1	-	-	-	-	-	29	-	-	-	580	4	6	29
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
D	84	1	1	-	-	-	1	-	-	-	1	-	1	1	200			3
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	11%	14%	11%	-79%
'90	00%	00%	00%	+58%
'96	00%	00%	00%	
'01	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
'84	1866	Dec:		11%
'90	400			0%
'96	960			0%
'01	0			0%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Tetradymia nuttallii																		
S	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	1	-	-	-	-	-	-	-	-	1	-	-	-	66			1
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
Y	84	-	1	-	-	-	-	-	-	-	1	-	-	-	66			1
	90	5	-	-	-	-	-	-	-	-	5	-	-	-	333			5
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	1	-	-	1	-	-	-	-	-	2	-	-	-	40	16	24	2
	01	1	-	-	3	-	-	-	-	-	4	-	-	-	80	13	15	4
D	84	1	-	-	1	-	-	-	-	1	1	-	2	-	200			3
	90	6	-	-	2	-	-	-	-	-	5	-	-	3	533			8
	96	7	1	-	2	-	-	2	-	-	7	-	-	5	240			12
	01	4	1	-	4	-	-	-	-	-	2	-	-	7	180			9
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	120			6
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	220			11

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	25%	25%	50%	+69%
'90	00%	00%	23%	-68%
'96	07%	00%	36%	+ 0%
'01	07%	00%	50%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'84	266	Dec:	75%
	'90	866		62%
	'96	280		86%
	'01	280		64%